

### **REMARKS/ARGUMENTS**

Applicants acknowledge receipt of the Office Action dated January 30, 2006, and thank the Examiner for her thoroughness in considering the claims.

#### ***Status of Claims***

Claims 1-64 are currently pending in this application.

Claims 1, 12, 18, 19, 20, 45 and 61 are currently amended.

Claims 37-44, 48-53, 60, and 64 are withdrawn from consideration.

Applicants hereby request further examination and reconsideration of the present application.

#### ***35 USC § 112, First Paragraph, Rejections***

Claims 1-36, 45-47, 54-59 and 61-63 stand rejected under 35 USC § 112, first paragraph, for failing to comply with the written description requirement. More specifically, the Examiner asserts there is no support in the specification for the phrase "wherein the properties of said coating are controlled by adjusting the concentrations of the carbon residue forming material," and the phrase is not described so as to reasonably convey to one skilled in the relevant art that the inventors, had possession of the claimed invention at the time the application was filed.

The MPEP provides guidance as to when a subject matter complies with the written description requirement:

An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed."

The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.

MPEP § 2163.02 (emphasis added). Applicants respectfully assert that claims 1-36, 45-47, 54-59 and 61-63 comply with the written description requirement of § 112 because the specification as-filed discloses, at paragraph [0037], that "By adjusting the total ratio of the solvent to the

carbon residue-forming material and the solution temperature, the total amount and hardness of the precipitated carbon residue-forming material on the carbonaceous, silicon or composite particles can be controlled.” Because the ratio of solvent to carbon residue-forming material is the “concentration” and because “amount” and “hardness” are “properties” of the precipitated material, this statement clearly supports the claim limitation in question. Put another way, one of ordinary skill in the art would understand from the passage in paragraph [0037] that the properties of the coating can be controlled by adjusting the concentrations of the carbon residue forming material, as claimed.

Because a person of ordinary skill in the art would recognize and understand the claimed limitation in the phrases used in the specification, the Applicants respectfully argue that the phrase in question satisfies the written description requirement.

Nonetheless, Applicants have deleted the phrase in question from claim 1 because they believe that claim 1 is allowable on other grounds, as discussed in detail below.

### ***35 USC § 112, Second Paragraph, Rejections***

Claims 1-36,45-47,54-59 and 61-63 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The MPEP provides guidance as to when a claim particularly points out and distinctly claims the subject matter which the Applicant regards as the invention:

The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

(A) the content of the particular application disclosure;

(B) the teachings of the prior art; and

(C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

(MPEP 2173.02, emphasis added). Applicants respectfully submit the Examiner’s rejection of these claims as indefinite is improper as the Applicants’ disclosure describes the result of the

disclosed process as providing the property of “an especially uniform coating of the carbon residue of the carbon residue material on the particles.” (Paragraph [0033]) The Examiner is required to analyze the claim language in light of the Applicants disclosure, which particularly points out the desired end property is a uniformity in the coating that is applied to the particles. Such an objective would be readily apparent to a person of ordinary skill in the art upon examination of the Applicants’ claims in light of the disclosure.

Furthermore, Applicants submit that there can be no confusion or indefiniteness regarding the phrase “...by adjusting the concentrations of the carbon residue forming material and solvent.” The concept of adjusting concentrations has only one meaning and is neither indefinite nor ambiguous.

Applicants therefore respectfully submit that Claim 1-36, 45-47, 54-59 and 61-63 are allowable as previously amended, inasmuch as one of ordinary skill in the art would clearly understand what is intended to be claimed in each case.

Nonetheless, Applicants have deleted the phrase in question from claim 1 because they believe that claim 1 is allowable on other grounds, as discussed in detail below.

### ***35 USC § 103 Rejections***

Claims 1-17, 30, 19-35, and 54-59 stand rejected under 35 USC § 103(a) as being unpatentable over *Matsubara* (U.S. 6,733,922) in view of *Yamazaki* (U.S. 6,022,517) and *Zimmerman* (U.S. 6,123,829). Claim 18 stands rejected under 35 USC § 103(a) as being unpatentable over *Matsubara* in view of *Yamazaki* and *Somasundaran* (U.S. 5,705,222). Claim 36 stands rejected under 35 USC § 103(a) as being unpatentable over *Matsubara* in view of *Yamazaki* and *Mizutori* (JP 61034222). Finally, claims 45-47, and 61-63 stand rejected under 35 USC § 103(a) as being unpatentable over *Matsubara* in view of *Yamazaki* and further in view of *Zimmerman* and *Somasundaran*.

Applicants note that *Matsubara* and *Yamazaki* are again the primary references relied upon by the Examiner, and thus claims 1-17, 19-34, 54-59, and 61-63 stand or fall on the application of *Matsubara* and *Yamazaki* to claims 1, 45, and 61.

Applicants respectfully traverse these rejections for the reasons set forth below.

First, the current amendments to claims 1, 45, and 61 expressly require that the particles be coated separately and thus plainly distinguish the present claims over the combination of *Matsubara* with *Yamazuki*. The requirements for establishing a *prima facie* case of obviousness are well established:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. ...MPEP § 2142 citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

As presently amended, claims 1, 45, and 61 expressly require that the silicon particles and particles of carbonaceous material are each *separately* coated with a carbon residue forming material before being combined and coated further. When taken either alone or in combination, *Matsubara* and *Yamazuki* do not teach or suggest a process in which carbonaceous particles and silicon particles are separately coated and then combined and coated further.

Applicants respectfully point out that *Matsubara* fails to teach or suggest a process in which the silicon and carbonaceous particles are coated separately before being contacted to form a composite particle, which is then coated further. According to *Matsubara* the composite particles are formed in a single step:

“A polymer material is dissolved in the appropriate solvent to form a coating solution. To the coating solution a mixture of the Si particulate and the conducted carbon material is introduced; and the excess solvent removed. A complex particle precursor is thereby obtained in which the Si particulate and the conductive carbon material are coated with the polymer material layer” (Column 12, lines 32-38).

Nothing in *Matsubara* teaches or suggests coating individual particles separately before combining them.

The Examiner also relies on application of the method of *Yamazaki* for stabilizing the pitch precursor in *Matsubara* after each coating step. However, like *Matsubara*, *Yamazaki* fails

to teach or suggest the claimed process for the preparation of the composite material. In fact, *Yamazaki* does not teach the use of a second material (such as silicon) at all.

In addition, the previous amendments to claims 45 and 61 further distinguish Applicant's process over both *Matsubara* and *Yamazaki* by adding recitations relating to the coating process. Claims 45 and 61 require that the coating of the composite particle be performed such that "the properties of said coating are controlled by adjusting the concentrations of the carbon residue forming material and solvent." None of the cited references teaches or suggests a coating process in which the properties of the coating layer are controlled by adjusting the concentrations of the carbon residue forming material and solvent.

The Examiner's rejections of the dependent claims is also traversed in light of the amendments to claims 1, 45, and 61 and the fact that the cited references disclose only one-step processes for the production of composite particles.

With respect to claims 14-17, 19-20, 22-25, and 56-58, the Examiner asserts that selection of temperature and concentration parameters is obvious absent a showing of criticality. Claims 14-17, 19-20, 22-25 and 56-58 each refer to a precipitation process. It is well known in the art that precipitation is a solubility phenomenon and concentration and temperature are parameters that critically affect precipitation. Applicants respectfully submit that these claims should be allowed for this reason and because they depend from allowable base claims.

Applicants likewise respectfully traverse the rejection of dependent claim 36, independent claims 45 and 61, and their dependent claims 46-47 and 62-63 for the reasons set out above, namely that the references, taken alone or in combination do not teach or suggest a method that includes either separate coating of two types of particles or controlling the properties of the coating by adjusting the concentrations of the carbon residue forming material and solvent.

### ***Conclusion***


Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by Applicants. No new matter is introduced by way of the amendment. It is believed that each

ground of rejection raised in the *Final Office Action* dated January 30, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper please appropriately charge such fee to Deposit Account Number 03-2769 of Conley Rose, P.C., Houston, Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Date: \_\_\_\_\_

Respectfully submitted,  
CONLEY ROSE, P.C.



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